

Fam. MUSCIDÆ.

GLOSSINA Wied.

GLOSSINA LONGIPENNIS Corti.

Glossina longipennis, Corti, Ann. Mus. Civ. Genov. xxxv. (1895) p. 138.

A single ♀, West Somaliland, June 23–25, 1895.

Mr. Peel's note on this specimen says:—"Fly-belt sharply defined from Biernuddo to Boholo Deno."

This species, which is the Somaliland Tsetse-fly, was described from a male specimen obtained by Capt. Vittorio Bottego in June, 1893, on the Uelmal River, in the Boran Galla country. The British Museum possesses four examples from Somaliland (the exact locality not being known), collected and presented by Mr. Th. Greenfield.

Corti states (*loc. cit.* p. 139) that *G. longipennis* is "related to *G. tachinoides*, Westw., but differs in having the antennæ yellowish and not brown." It is, however, much more closely allied to *G. tabaniformis*, Westw., in which the length and size of the wings are even greater.

3. LEPIDOPTERA RHOPALOCERA.

By F. A. DIXEY, M.A., M.D., Fellow of Wadham College, Oxford.

DANAINÆ.

LIMNAS CHRYSIPPUS Linn.

Twenty-two specimens: 16 ♂, 6 ♀. It is remarkable that not one of these is of the type form, 14 ♂ and 6 ♀ being var. *klugii*, in which the black and white of the apical portion of the fore wing are wanting; while the remaining 2 ♂ are var. *dorippus*, which resembles var. *klugii* in every respect except that both surfaces of the hind wing are more or less suffused with white as in the *alcippoides* form of the type. The dates and places of capture were as follows: Hargaisa (North-west Somaliland), April 25–28, 1895, *klugii*, 4 ♂, 1 ♀, *dorippus*, 1 ♂; Arigumeret, Farfanyer District (Central Somaliland), June 20, 1897, in thick bush, *klugii*, 4 ♂, *dorippus*, 1 ♂; Haud, Odewein (North Central Somaliland), June 23, 1897, in dry river-bed with thickly wooded banks, *klugii*, 1 ♂, 1 ♀; Haud District, Eyk (North Central Somaliland), July 2, 1897, *klugii*, 1 ♂, 1 ♀; Habr Heshi, Marehan Country (East Central Somaliland), Aug. 26, 1897, in thick bush, *klugii*, 4 ♂, 3 ♀.

The ground-colour of the present specimens varies, the majority being of the usual light reddish amber seen in Oriental specimens of the type. Two or three of the *klugii* are of a pale dull fawn, and one or two approach the duller and darker ground-tint of the African *chrysippus*. These differences are not sexual, and there are transitional forms. The marginal white spots of the hind wing

are generally obsolete on the upper surface; they are, however, conspicuous in one of the two *dorippus*. Most of the male *klugii* show a slight powdering of white scales in the neighbourhood of the submedian scent-patch.

In describing the collections made fifteen years ago in Somaliland by Col. Yerbury and Messrs. Thrupp, Lort Phillips, and James (Proc. Zool. Soc. 1885, p. 756), Dr. Butler remarked of *L. klugii*: "This is clearly the prevalent *Limnas* in Somaliland; *L. chrysippus* and *L. alcippus* having, apparently, entirely disappeared, and *L. dorippus* being scarce." The fact that the only specimens of *L. chrysippus* obtained by Mr. Peel in his two distinct visits to Somaliland were of the *klugii* and *dorippus* varieties, confirms the above conclusion. It is also worthy of note that the collection made by Capt. Swayne in the Harar Highlands (Proc. Zool. Soc. 1898, p. 821) contained *L. klugii*, but no specimens of *L. chrysippus*, *L. alcippoides*, or *L. dorippus*.

ACRÆINÆ.

ACRÆA NEOBULE Doubl.

Four specimens: 2 ♂, 2 ♀. Caught at Gonsali (West Somaliland), June 24, 1895.

ACRÆA DOUBLEDAYI Guér.

1 ♀. Gonsali, June 24, 1895.

ACRÆA SERENA Fabr.

3 ♀. Gonsali, June 24, 1895. In one of these specimens the subapical oblique dark bar on the fore wing is well marked, in the other two it is almost or altogether absent. One of the latter has the inner portion of the hind-marginal dark border of the fore wing almost obsolete, except near the apex.

ACRÆA MIRABILIS Butl. (Plate I. fig. 4.)

Acræa mirabilis, Butl. Proc. Zool. Soc. 1885, p. 760, pl. xlvii. fig. 1.

Seven specimens: apparently 5 ♂, 2 ♀. The British Museum possesses five specimens of this interesting *Acræa*, including the types. The present specimens differ from those in the National Collection (one of which retains a violet bloom) in the following particulars:—(1) The upper surface is generally of a warmer chestnut tinge. (2) The paler marks beneath, including the subapical patch of the fore wings, are rich yellow-ochre, instead of being nearly white as in the British Museum examples. In one of the latter, a female, the subapical patch on the upper surface also is creamy white. (3) In the present specimens there is a definite yellow band immediately external to the darker median band of the hind wing beneath. This is not the case in the British Museum examples, where the drab submarginal area gradually pales inwards towards the darker median band. In the ♀ type

this submarginal pale area is somewhat more distinct than in the other British Museum specimens, but it does not reach the condition seen in Mr. Peel's examples. The dated specimens in the National Collection were taken at Bundu Maria, Somaliland, in April. Mr. Peel's were all captured at Aoho, near Hodayu, Ogaden Country, Central Somaliland, on Aug. 20, 1897. The country consisted of stony hills, with thick bush. From the dates it seems probable that the present specimens belong to the wet-season, and the British Museum specimens to the dry-season form of the species.

NYMPHALINÆ.

JUNONIA CEBRENE Trim.

Six specimens, all males. Three were captured at Hargaisa, April 25-28, 1895; the other three in the summer of 1897, two bearing the date June 20, and the locality Arigumeret, Farfanyer District. These latter have the underside generally darker and more speckled than the spring examples; this is less apparent in the third specimen, from Central or East Somaliland, June 5-Oct. 29, 1897.

JUNONIA CLELIA Cram.

Six specimens: 3 ♂, 3 ♀. Hargaisa, April 25-28, 1895. The undersides of these specimens vary, but in all the ocelli are more distinct and the general tint is less uniform than in the ordinary "dry-season" form of the species.

JUNONIA TAVETA Rogenh.

One male. Hargaisa, April 25-28, 1895.

BYBLIA ILITHYIA Drury.

Four specimens: 3 ♂, 1 ♀. These are of the "intermediate" seasonal form, the female verging towards "wet"¹. All are dated Hargaisa, April 25-28, 1895.

HYPOLIMNAS MISIPPUS Linn.

Twenty-eight specimens: 26 ♂, 2 ♀. It is very remarkable that of the only two female specimens obtained by Mr. Peel, one should be of the ordinary form, resembling the type of *L. chrysippus*, and the other of the var. *alcippoides*, differing from the former only in the whitish suffusion on both surfaces of the hind wing. From the facts given above (see under *L. chrysippus*, p. 10), it would appear that the form *klugii* of *L. chrysippus* occurs in Somaliland to the exclusion of the type, and it might have been expected that the form of *H. misippus* ♀ which so closely resembles *klugii*, viz. *H. inaria* Cram., would have been the form similarly

¹ For a discussion of geographical and seasonal forms in the genus *Byblia* Hübn., with especial reference to the relations between the forms occurring in Somaliland and Socotra, see Dixey, Proc. Zool. Soc. 1898, pp. 376-379.

prevalent in that region. So far as the evidence of Mr. Peel's collection goes, the reverse is the case. Another remarkable fact in the distribution of these parallel forms is that while *H. klugii* is extremely rare in India, the corresponding variety of *H. missippus* ♀ occurs there not infrequently¹. It is also worthy of note that the white-winged West-African form, *Limnas alcippus* Cram., is accompanied by the ordinary, and not the white-winged, form of *H. missippus* ♀.

The dates and localities of the present examples are as follows:—Hargaisa, April 25–28, 1895, 6 ♂, 1 ♀ (ordinary type); Arigumeret, Farfanyer District, June 20, 1897, in thick bush, 2 ♂, 1 ♀ (var. *alcippoides* Butl.); Bally Maroli, Haud District (North Central Somaliland), June 25, 1897, in open plain, 14 ♂; Eyk, Haud District, July 2, 1897, 3 ♂. One other male was taken in Central or East Somaliland between June 5 and October 29, 1897, the exact locality being uncertain.

HAMANUMIDA DÆDALUS Fabr.

One male, Hargaisa, April 25–28, 1895. The underside is of the "dry-season" form, though not extreme.

LYCENINÆ.

POLYOMMATUS BÆTICUS Linn.

Two specimens, both males. On the thickly wooded banks of a dry river-bed, Haud, Odewein, June 21 & 23, 1897.

PLEBEIUS TROCHILUS Freyer.

Two females. Gerato Pass, Goolis Range (North-west Somaliland), June 9, 1897.

AZANUS JESOUS Guér.

Five males. Of these, four were captured on the dry sandy plateau of Edegan in the Haud District (North Central Somaliland), July 9, 1897; the remaining one was taken at Joh in the Haweea Country (East Central Somaliland), Sept. 20, 1897.

AZANUS THEBANA Stdgr.

Lycerna macalenga, Trim. S.-Afr. Butterfl. vol. ii. p. 74 (1887).

Three specimens: 1 ♂, 2 ♀. One pair from Odewein, Haud, June 21–23, 1897, dry river-bed with thickly wooded banks; the other female from the sandy plateau of Edegan, in the same district, July 9, 1897.

LYCENESTHES PRINCEPS Butl.

Two females apparently belonging to this form, though somewhat smaller than the type, which came from Abyssinia. Edegan, Haud District, July 9, 1897.

¹ See Swinhoe, Journ. Linn. Soc., Zool. vol. xxv. pp. 340, 341. For a summary of the facts at present known with regard to the distribution of the forms in question, see Poulton, 'Nature' July 6, 1899, p. 223.

SPINDASIS SOMALINA Butl.

Spindasis somalina, Butl. Proc. Zool. Soc. 1885, p. 764, pl. xlvii. fig. 5.

Two specimens, both males. Webbi Shebeyli, near Mount Kuldush (West Somaliland), June 28, 1895.

IOLAUS NURSEI Butl.

One male. Webbi Shebeyli, near Mount Kuldush, June 28, 1895.

PIERINÆ.

CATOPSILIA FLORELLA Fabr.

Forty-three specimens: 40 ♂, 3 ♀. Of these, 34 ♂ on July 2, 1897, and 1 ♀, July 4, 1897, were caught at a pool in the open plain of Eyk in the Haud District. The other captures were as follows:—Bun Feroli, N. of Shebeyli River (West Somaliland), June 10–20, 1895, 1 ♂; Odewein, Haud District (dry river-bed), June 21, 1897, 4 ♂, 2 ♀; Bally Maroli, Haud District (open plain), June 23, 1897, 1 ♂. The males, even those caught on the same day, vary much in size; in a few of the smaller examples the freckling of the underside is very faint or absent. The three females are all of the yellow form.

COLIAS MARNOANA Rogenh.

One female. Hargaisa, April 25–28, 1895.

TERIAS HAPALE Mab.

Two males. Hargaisa, April 25–28, 1895.

TERACOLUS EUPOMPE Klug.

Seven specimens; 4 ♂, 3 ♀. These were captured as follows:—a “dry season” ♂, and “intermediate” ♂ & ♀ at Hargaisa, April 25–28, 1895; a “wet season” ♂ in the dry river-bed at Odewein, Haud, June 23, 1897; a “wet season” ♂ & ♀ on the plateau of Edegan, July 9, 1897.

A remarkable form, apparently of the female of this species, was caught on the Sule River (West Somaliland), May 29, 1895. The wings have no marginal black except at the apex of the fore wing, and no black at the bases except a slight dusky powdering like that of the “dry season” male. The crimson apical patch has no chain of submarginal dark spots, but an ill-defined inner dark border to the patch is present, widened between the second and third median nervules. Beneath, there is only a very faint indication of the crimson apical patch, but the submarginal chain of dark spots in the fore wing is well-developed, except that there is no spot between the first and second branches of the median. The hind wings show a faint drab irroration, and the submarginal spots are ill-developed. The first submarginal spot of the fore wing, and the first two of the hind wing, together with the discoidal spot of the hind wing, are pale-centred, looking like incipient ocelli.

The "intermediate" female shows in some respects an approach to this condition, and the specimen just described may perhaps be considered as an extreme "dry season" form, though this would scarcely be expected in view of the recorded date.

TERACOLUS OMPHALE Godt.

Two specimens: ♂ & ♀. These were both caught at Hargaisa, April 25-28, 1895. They are of the "intermediate" form, and are smaller than the average size of the species.

TERACOLUS PHILLIPSI Butl.

Teracolus phillipsi, Butl. Proc. Zool. Soc. 1885, p. 772, pl. xlvii. fig. 11.

Nine specimens; 6 ♂, 3 ♀. The males are all of the "wet season" form; four were taken on July 4, 1897, at a pool in the open plain of Eyk, in the Haud District; the remaining two on the dry plain of Edegan in the same district, on July 9, 1897. Two "wet season" females were taken at Odewein, Haud, on June 21, 1897; and a "wet" or "intermediate" female at Hargaisa, April 25-28, 1895.

TERACOLUS HELVOLUS Butl.

Teracolus helvolus, Butl. Proc. Zool. Soc. 1888, p. 94.

Seven specimens: 5 ♂, 2 ♀. Four males and one female at Hargaisa, April 25-28, 1895. These are of the "dry season" form. A "wet season" ♂ & ♀ were taken in the river-bed at Odewein, June 23, 1897, and at the pool of Eyk on July 4, 1897, respectively.

TERACOLUS HELIOCAUSTUS Butl.

Teracolus heliocaustus, Butl. Proc. Zool. Soc. 1885, p. 768, pl. xlvii. figs. 8 & 9.

One male. Odewein, June 21, 1897.

TERACOLUS PROTOMEDIA Klug.

One male. Sibi (West Somaliland), May 27, 1895.

HERPENIA MELANARGE Butl.

Herpenia melanarge, Butl. Proc. Zool. Soc. 1885, p. 774.

Herpania iterata, Butl. Proc. Zool. Soc. 1888, p. 96.

One male. Sibi (West Somaliland), May 27, 1895. A "wet season" form.

BELENOIS PEELI, sp. nov. (Plate I. figs. 5 ♂, 6 ♀.)

Types (♂ & ♀) in Hope Museum, Oxford.

Exp. al., ♂ 50 mm., ♀ 52 mm.

Male. Above white, with a pearly lustre at the base of the wings as in *B. gileica*, *B. abyssinica*, &c., best marked in the fore wing. Costa of the fore wing with a very thin edging of black. A black marginal spot at the termination of each of the following

veins:—in the fore wing the 2nd and 3rd subcostal, the two radial and the three median branches; in the hind wing the 2nd subcostal, the radial, and the three median. These marginal spots are oval in the hind wing, the long axis being parallel with the border of the wing; in the fore wing they are more or less triangular, with their bases at the margin. The first two at the apex of the fore wing are more or less fused; the remainder in both wings are distinct. There is a slight submarginal powdering of black scales in the fore wing between the 2nd and 3rd subcostal, and also between the two radials. A much fainter powdering occurs between the 3rd subcostal and upper radial, and the slightest possible trace of a similar powdering between the 2nd and 3rd median. The marginal spots and the submarginal powdering mark out between them a very indistinct series of white subapical spots, the first three more or less wedge-shaped, the fourth nearly circular; these are barely to be separated from the general white surface. Beneath, the wings are white; there is a thin dusky line along the costa of the fore wing, and dark marginal spots, like those of the upper surface but smaller, occur at the extremities of the same veins in both wings. There is an orange-yellow patch at the base of the fore wing, occupying about one-fifth of the cell, and somewhat prolonged along the course of the subcostal vein. The same orange-yellow colour occurs in the hind wing as a streak along the costa, as a well-defined patch between the roots of the median and submedian veins, and as a median chain of spots crossing the disc of the wing from the costa to the inner border; these latter are seven in number, one occupying each interspace posterior to the costal vein except the space between the second subcostal and discoidal, and that between the second and third median. The third of the series surrounds the discocellular venule. This and the four succeeding spots are fairly distinct; the other two are faint. There is also a very slight indication of a submarginal series of dull yellow spots running parallel with the hind border of the wing.

Female. Above, like the male, but with the marginal dark spots somewhat larger. These are triangular in the hind wing, and in the fore wing become fused towards the apex into a narrow marginal band. The dark subapical powdering forms more definite and larger patches than in the male, and the white subapical spots are consequently more distinct. There is a trace of a marginal dark spot at the termination of the submedian vein of the fore wing, which is hardly if at all visible in the male. The basal pearly gloss is well marked, and the basal orange-yellow shows slightly through from the lower surface. Beneath, as in the male; but the basal orange-yellow occupies from one-third to one-half of the cell instead of only one-fifth. The submarginal series of spots is somewhat more distinct than in the male, and appears to be of the same orange-yellow as the median series.

In both sexes the first subcostal branch of the fore wing coalesces with the costal. The wings of the male are slightly more pointed,

as in *B. gidica*, &c., than those of the female. This species can readily be distinguished from any other of its genus by the entire absence of a dark discoidal spot from both surfaces of both wings in each sex, and by the presence of a double row of yellow or orange spots, unaccompanied by any dark markings, on the under-side of the hind wing. It is probably a "dry-season" form, and perhaps most nearly recalls the dry-season *B. abyssinica* Luc., but it is far less heavily marked.

Two specimens; ♂ & ♀. Sule River, West Somaliland, May 29, 1895. Both, especially the female, somewhat worn.

BELENOIS MESENTINA Cram.

Nine specimens; 6 ♂, 3 ♀. Dates and localities as follows:—Sule River, May 29, 1895, 2 ♂; Odewein, Haud, June 21, 1897, 2 ♂, 1 ♀; pool at Eyk, Haud District, July 4, 1897, 2 ♂, 1 ♀; summer or autumn of 1897 (Central or East Somaliland), 1 ♀.

NYCHITONA MEDUSA Cram.

1 ♀. Hargaisa, April 25–28, 1895. This is of the form *alcesta* Cram.

MYLOTHRIS AGATHINA Cram.

1 ♀. Sibi, May 27, 1895.

PAPILIONINÆ.

PAPILIO DEMOLEUS Linn.

Four specimens; 2 ♂, 2 ♀. Webbi Shebeyli, near Mt. Kuldush, June 27, 1895.

HESPERIIDÆ.

SARANGESA ELIMINATA Moore.

Two females, one at the Webbi Shebeyli, June 28, 1895; the other at Odewein, Haud, June 21–23, 1897.

RHOPALOCAMPTA ANCHISES Gerst.

4 ♂, 2 ♀. Two males and a female at Odewein, Haud, June 21–23, 1897; the remainder in the summer or autumn of 1897, in Central or East Somaliland, the exact locality being uncertain.

4. LEPIDOPTERA HETEROCERA.

By HERBERT DRUCE, F.L.S., F.Z.S.

Mr. Peel's collection of Moths includes specimens of four new species.

ARCTIADÆ.

SECUSIO STRIGATA Wlk.

North-west Somaliland, Hargaisa, April 25–28, 1895. One example.